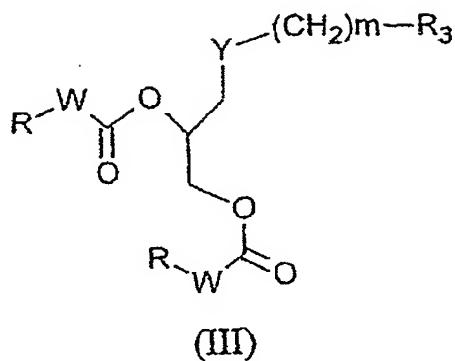


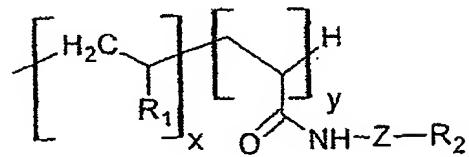
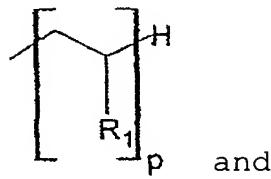
CLAIMS

1. A compound of formula (III):



5

in which R_3 represents a group chosen from:



10 - Y represents a sulfur atom or an $-\text{NH}-\text{CO}-\text{(CH}_2\text{)}_n-\text{X}$ group, X represents a sulfur atom S or a $-\text{CH}_2-$ group; n is an integer ranging from 0 to 10;

15 - R represents a group chosen from: $\text{C}_4\text{-C}_{24}$ hydrocarbon-based radicals; $\text{C}_4\text{-C}_{24}$ fluorinated hydrocarbon-based radicals; $\text{C}_4\text{-C}_{24}$ thioalkyl radicals;

20 - m is an integer ranging from 0 to 9, and, when $X = \text{CH}_2$, then $0 < m+n < 6$;

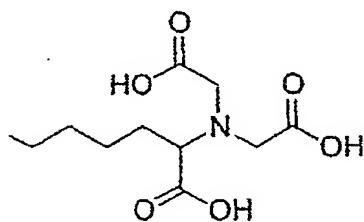
- x represents 0 or an integer ranging from 1 to 30;

- y represents 0 or an integer ranging from 1 to 10;

- R_1 represents a hydrophilic group;

- R₂ represents a recognition group having an affinity for a biological target;

- Z is a spacer arm; Z is bound to R₂ by means of a bond which can be chosen from the functions -O-CO-, -CO-NH-, -NH-CO-NH-, -NH-CO-O-, O-CO-O-, -O-, -CH=N- or -S- or by complexation of a nickel atom; Z is chosen from a peptide chain, an Ω -amino acid, ethanolamine, 3-propanolamine and a diamine of formula -NH-(CH₂)_p-NH-, in which p represents an integer ranging from 2 to 6, or -Z-R₂ represents a group NTA of the formula below:



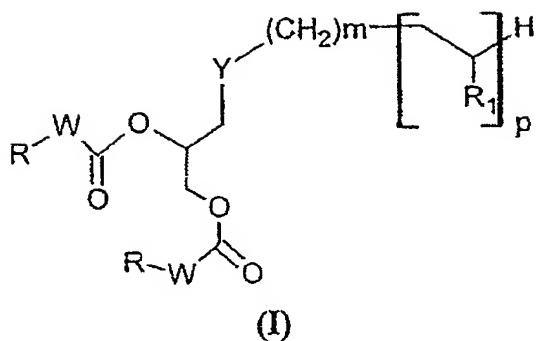
15 2. A compound as claimed in claim 1, characterized in that the group R is chosen from the following radicals:

- the thiooctyl radical,

- n-butyl, tert-butyl, isobutyl, n-pentyl, isopentyl, n-hexyl, n-heptyl, n-octyl, n-nonyl, n-decyl, n-undecyl, n-dodecyl, n-tridecyl, n-tetradecyl, n-pentadecyl, n-hexadecyl, n-heptadecyl, n-octadecyl or the phytyl radical (CH₃[CH(CH₃)(CH₂)₃]₃CH(CH₃)CH₂CH₂),

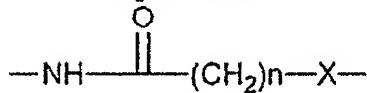
20 25 - fluorinated hydrocarbon-based radicals corresponding to the formula -(CH₂)_t-(CF₂)_rF, in which r and t represent two integers with: 14 \geq r+t \geq 4.

30 3. A compound as claimed in either one of claims 1 and 2, corresponding to formula (I):



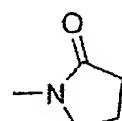
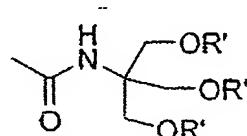
in which:

- Y represents a sulfur atom or a group



CH₂ groups, n is an integer ranging from 0 to 10;

- m is an integer ranging from 0 to 9; and, when $X = \text{CH}_2$, then $0 < m+n < 6$;
- W represents an $-\text{NH}-$ group or a $-\text{CH}_2-$ group;
- p represents an integer ranging from 1 to 50;
- R_1 represents a group chosen from the following radicals:

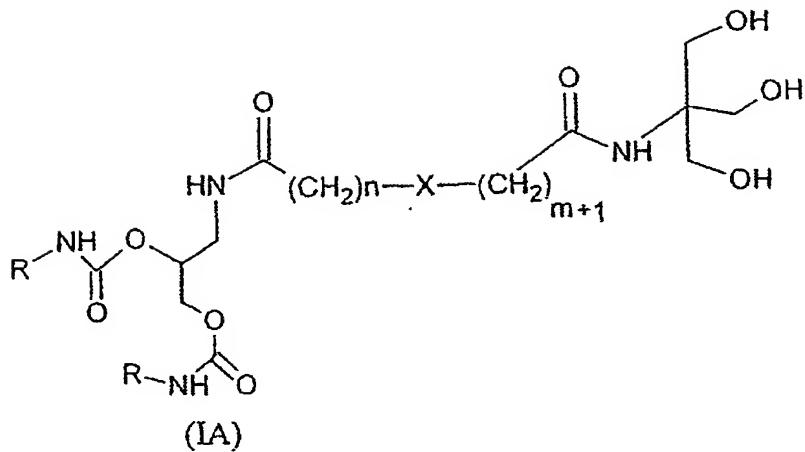


15

in which R' represents H or a hydrophilic group;

- R represents a group chosen from: C₄-C₂₄ hydrocarbon-based radicals; C₄-C₂₄ fluorinated hydrocarbon-based radicals; C₄-C₂₄ thioalkyl radicals.

4. A compound as claimed in claim 3, characterized in that it corresponds to formula (IA):



(IA)

in which:

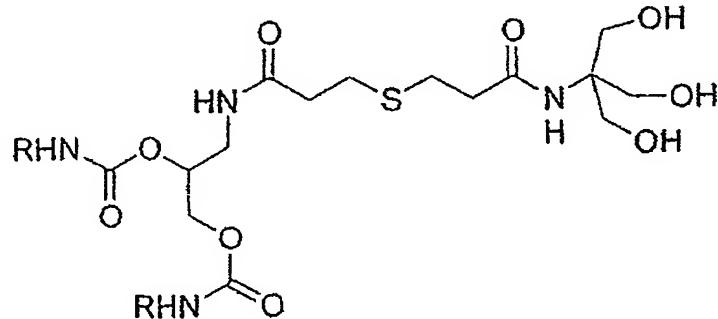
- X represents a sulfur atom S or a $-\text{CH}_2-$ group;
- n is an integer ranging from 0 to 10;
- 5 - m is an integer ranging from 0 to 9;
- when $\text{X} = \text{CH}_2$, then $0 < m+n < 6$;
- R represents a group chosen from: C_4-C_{24} hydrocarbon-based radicals; C_4-C_{24} fluorinated hydrocarbon-based radicals; C_4-C_{24} thioalkyl radicals.

10

5. A compound as claimed in claim 4, characterized in that R is chosen such that (IA) has a phase transition temperature of greater than 37°C .

15

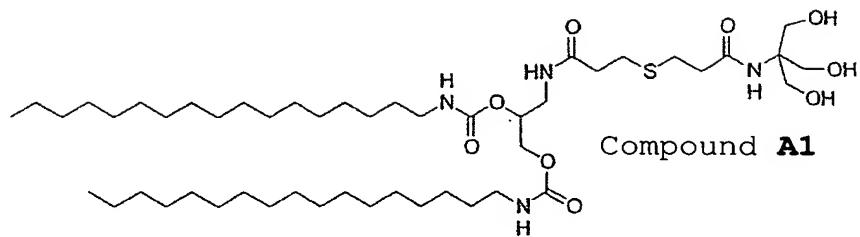
6. A compound as claimed in claim 4 or claim 5, characterized in that it corresponds to formula A:



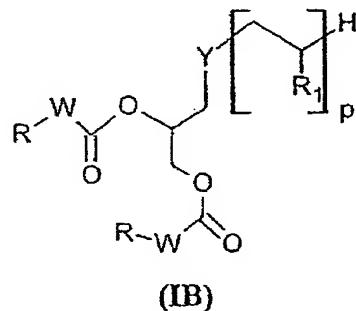
20 Formula A

7. A compound as claimed in claim 6, characterized in

that it corresponds to formula **A1**:

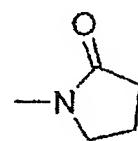
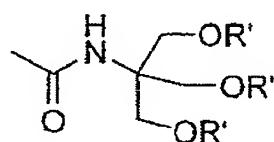


8. A compound as claimed in claim 3, corresponding to
5 formula (IB):



in which:

10 Y represents a sulfur atom or the -NH-CO-CH₂CH₂S- group;
W represents an -NH- group or a -CH₂- group;
p represents an integer ranging from 1 to 50;
15 R₁ represents a group chosen from the following radicals:



20 in which R' represents H or a C₄-C₂₄ polyhydroxylated hydrocarbon-based compound;
R represents a group chosen from: C₄-C₂₄ hydrocarbon-based radicals; C₄-C₂₄ fluorinated hydrocarbon-based radicals; C₄-C₂₄ thioalkyl radicals.

9. A compound as claimed in claim 8, characterized in that R is chosen such that (IB) has a critical micellar concentration of less than 10^{-5} M.

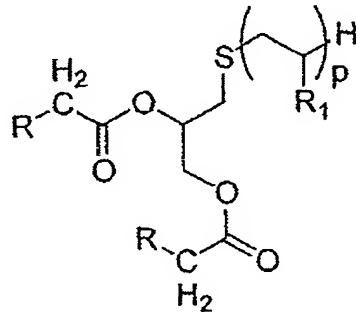
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10. A compound as claimed in claim 8 or claim 9, characterized in that it satisfies one or more of the conditions below:

- p represents an integer ranging from 1 to 5;
- Y represents S .

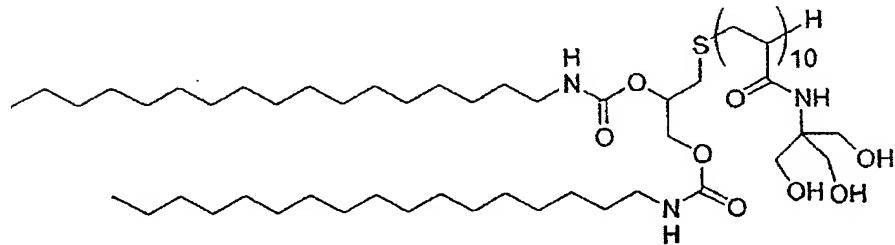
11. A compound as claimed in any one of claims 8 to 10, characterized in that it corresponds to formula C in which p represents an integer ranging from 5 to 15:

15



Compound C

20 12. A compound as claimed in claim 11, characterized
in that it corresponds to formula C1:

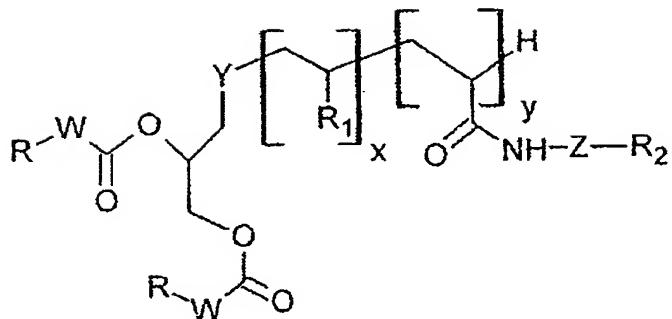


Compound C1

25

13. A compound as claimed in claim 1 or claim 2, characterized in that it corresponds to formula

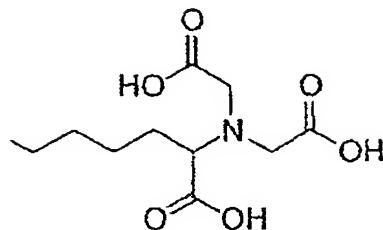
(II) :



(II)

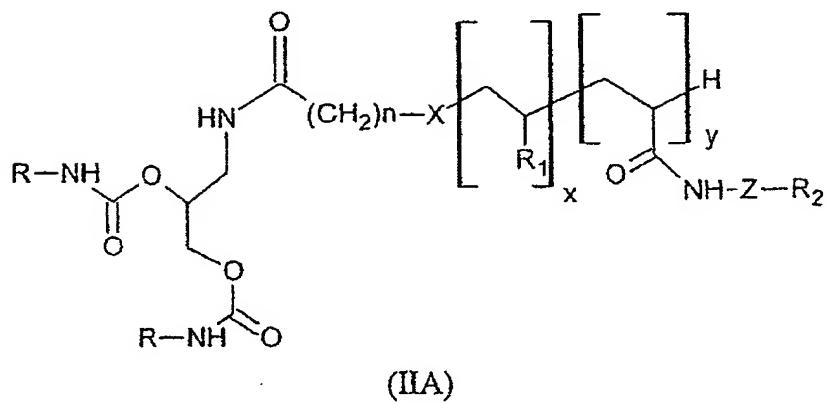
5 in which:

- Y represents a sulfur atom or the -NH-CO-(CH₂)_n-X- group in which X represents a sulfur atom S or a -CH₂- group, n is an integer ranging from 0 to 10;
- W represents an -NH- or -CH₂- group;
- x represents 0 or an integer ranging from 1 to 30;
- y represents 0 or an integer ranging from 1 to 10;
- R₁ represents a hydrophilic group;
- R₂ represents a recognition group having an affinity for a biological target;
- Z is a spacer arm; Z is bound to R₂ by means of a bond which can be chosen from the functions -O-CO-, -CO-NH-, -NH-CO-NH-, -NH-CO-O-, O-CO-O-, -O-, -CH=N- or -S- or by complexation of a nickel atom; Z is chosen from a peptide chain, an Ω -amino acid, ethanolamine, 3-propanolamine and a diamine of formula -NH-(CH₂)_p-NH-, in which p represents an integer ranging from 2 to 6, or -Z-R₂ represents a group NTA of formula:



14. A compound as claimed in claim 13, characterized in that it corresponds to formula (IIA):

5



(IIA)

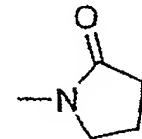
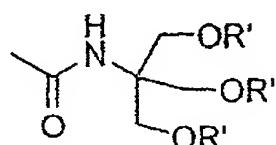
15. A compound as claimed in claim 14, characterized in that one or more of the following conditions

10

are met:

- X = S,
- n = 2,
- R₁ is chosen from the following radicals:

15

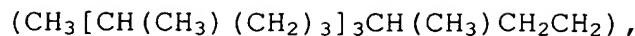


in which R' represents H or a C₄-C₂₄ polyhydroxylated hydrocarbon-based compound,

20

- R is chosen from the following radicals:

- the thiooctyl radical,
- n-butyl, tert-butyl, isobutyl, n-pentyl, isopentyl, n-hexyl, n-heptyl, n-octyl, n-nonyl, n-decyl, n-undecyl, n-dodecyl, n-tridecyl, n-tetradecyl, or the phytyl radical

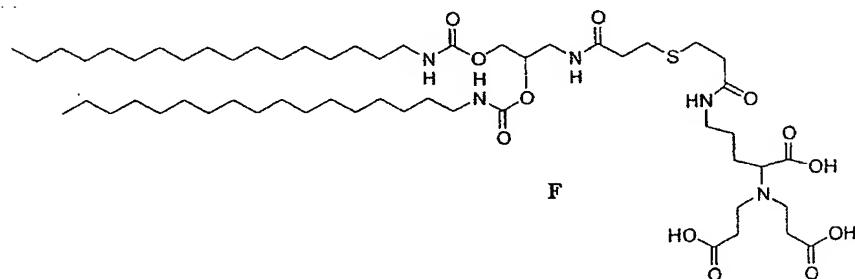


- fluorinated hydrocarbon-based radicals corresponding to the formula $-(CH_2)_t-(CF_2)_rF$, in which r and t represent two integers with: $14 \geq r+t \geq 4$,

- R_2 is chosen from antibodies, antibody fragments, small effector molecules that allow interaction with cell surface receptors, antigens, sugars and peptides.

10

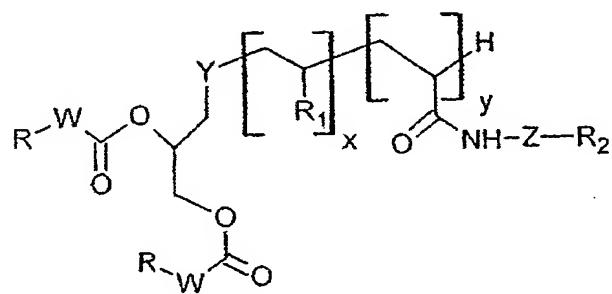
16. A compound as claimed in claim 15, characterized in that it corresponds to formula **F**:



15

Formula **F**

17. A compound as claimed in claim 13, characterized in that it corresponds to formula (IIB):



(IIB)

20

in which:

- Y represents a sulfur atom or the $-NH-CO-CH_2CH_2S-$ group.

25

18. A nanoparticle, characterized in that it contains one or more compounds of formula (I) as claimed in any one of claims 3 to 12, as constituent of its walls.

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19. The nanoparticle as claimed in claim 18, characterized in that it also contains from 1 to 5% of one or more compounds of formula (II) as claimed in any one of claims 13 to 17.

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20. The nanoparticle as claimed in either one of claims 18 and 19, characterized in that it also contains a telomer or a polymer of a monomer of acrylic type contained in its inner aqueous cavity.

15

21. A combination of a nanoparticle as claimed in any one of claims 18 to 20 with a compound chosen from: therapeutic active ingredients, cosmetic substances, diagnostic agents and vaccines.

20

22. A therapeutic, diagnostic, vaccine or cosmetic composition comprising at least one active ingredient in combination with a liposome as claimed in any one of claims 18 to 20.

25